

Claims

1-20. (Canceled)

21. (Previously presented) A method for forming a tire tread having a tire noise pitch sequence for a pneumatic tire; the method comprising the steps of:

selecting three, four, five, six, or seven modulation orders;

defining an amplitude for each of the selected modulation orders;

defining a phase for each selected modulation order;

creating a function for each modulation order that includes the defined amplitude and phase of the modulation order;

summing the created functions for each modulation order to create a wave Y having a curve;

defining a lug stiffness variation curve (D_i) to be the accumulation of the deviation of the arc length from the arc length of the mean pitch size;

setting the lug stiffness variation curve equal to the curve of the Y wave to define an equation;

solving the equation to obtain a unique set of pitch sizes;

using the unique set of pitch sizes to define a tire noise pitch sequence and

arranging tread lugs on a tire tread of a pneumatic tire to match the tire noise pitch sequence.

22. (Previously presented) The method of claim 21, further comprising the steps of selecting a total number of pitches, five different pitch sizes, and pitch ratios of 1.00, 1.10, 1.25, 1.40, and 1.50; and fitting the unique set of pitch sizes to the selected five pitch sizes.

23-24. (Canceled)

25. (Previously presented) The method of claim 21, further comprising the steps of selecting a total number of pitches, three different pitch sizes, and pitch ratios of 1.00, 1.25, and 1.50; and fitting the unique set of pitch sizes to the selected three pitch sizes.

26. (Previously presented) The method of claim 21, further comprising the step of defining the amplitudes of the first and second modulation orders to be smaller than the amplitudes of the remaining selected modulation orders.

27. (Previously presented) The method of claim 26, further comprising the step of defining the amplitudes of the first and second modulation orders to be zero.

28. (Previously presented) The method of claim 26, further comprising the step of varying the amplitudes for the selected modulation orders.